

Patent Claims

1. A fuel cell system for mobile use, having a fuel cell unit (1) for generating electrical energy and an adsorption accumulator (3), assigned to the fuel cell unit (1), for releasing heat, characterized in that the adsorption accumulator (3) is in thermal terms operatively connected to a heat exchanger (2) which is arranged in a cooling circuit (4, 5) assigned to the fuel cell unit, downstream of the fuel cell unit (1).
2. The fuel cell system as claimed in claim 1, characterized in that the adsorption accumulator (3) is connected to the fuel cell unit (1) via a line (10, 12), and in that fuel cell waste products can be fed to the adsorption accumulator (3) via this line (10, 12).
3. The fuel cell unit as claimed in claim 1 or 2, characterized in that the adsorption accumulator (3) contains a zeolite, a silica gel and/or a metal hydride.
4. A method for operating the fuel cell system as claimed in one of claims 1 to 3, characterized in that
 - when the fuel cell system is starting up, coolant in a cooling circuit (4, 5) assigned to a fuel cell unit (1) is heated via a heat exchanger (2) by means of heat stored in an adsorption accumulator (3), with fuel cell exhaust gas products being fed to the adsorption accumulator (3) at the same time, and
 - in normal operation heat is fed to the adsorption accumulator (3) via the heat exchanger (2).